

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
20 January 2005 (20.01.2005)

PCT

(10) International Publication Number
WO 2005/006327 A1

(51) International Patent Classification⁷: G11B 20/10, 7/14

(21) International Application Number:
PCT/IB2004/051067

(22) International Filing Date: 30 June 2004 (30.06.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
03102143.9 14 July 2003 (14.07.2003) EP
03103830.0 16 October 2003 (16.10.2003) EP

(71) Applicant (for all designated States except US): KONINKLIJKE PHILIPS ELECTRONICS N.V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

(72) Inventors; and

(75) Inventors/Applicants (for US only): COENE, Willem, M., J., M. [BE/NL]; c/o Prof. Holstlaan 6, NL-5656

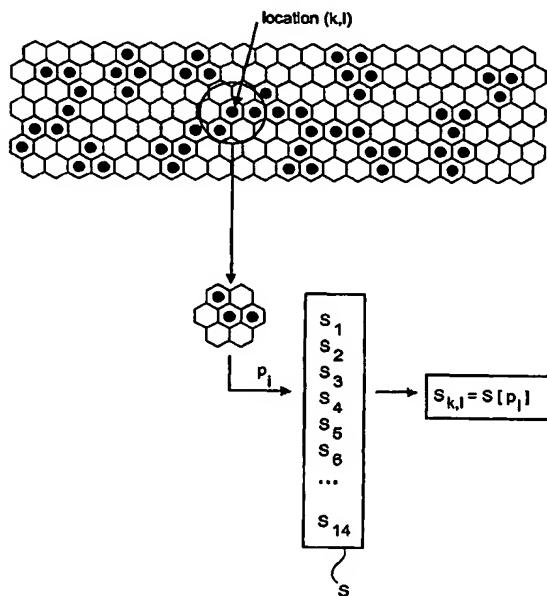
AA Eindhoven (NL). BERGMANS, Johannes, W., M. [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). IMMINK, Albert, H., J. [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). BUSCH, Christopher [DE/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). VAN DER LEE, Alexander, M. [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). HEKSTRA, Andries, P. [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). SPRUIJT, Aloysius, M. J., M. [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). DE RUIJTER, Johannes, M. [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

(74) Agent: UITTENBOGAARD, Frank; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,

(Continued on next page)

(54) Title: METHOD AND DEVICE FOR DETERMINING WRITE PARAMETERS FOR RECORDING INFORMATION ON A RECORD CARRIER



(57) Abstract: The present invention relates to a method of determining write parameters for recording information on a record carrier, said information being in the form of a multidimensional channel data stream to be recorded as a channel band of at least two symbol rows one-dimensionally evolving along a first direction and aligned with each other along a second direction. In particular in the case of a read-only optical record carrier (ROM), for determining pit-hole sizes as the write parameters of pit-bits to be mastered on a ROM disc, the write parameters for recording a pit-symbol of a symbol unit of said channel data stream, a symbol unit comprising a central symbol and a number of neighbouring symbols of which some are located on the same symbol row as the central symbol and others are located on neighbouring symbol rows, are determined under joint consideration of The present invention relates to a method of determining write parameters for recording information on a record carrier, said information being in the form of a multidimensional channel data stream to be recorded as a channel band of at least two symbol rows one-dimensionally evolving along a first direction and aligned with each other along a second direction. In particular in the case of a read-only optical record carrier (ROM), for determining pit-hole sizes as the write parameters of pit-bits to be mastered on a ROM disc, the write parameters for recording a pit-symbol of a symbol unit of said channel data stream,

a symbol unit comprising a central symbol and a number of neighbouring symbols of which some are located on the same symbol row as the central symbol and others are located on neighbouring symbol rows, are determined under joint consideration of (ii) the symbol values of the neighbouring symbols of the symbol unit located in the same symbol row as the central symbol of the symbol unit; and (iii) the symbol values of neighbouring symbols of the symbol unit located in the symbol rows that are neighbouring the symbol row of the central symbol of the symbol unit. Further, an iterative procedure for determining the write parameters is proposed.

WO 2005/006327 A1



PH, PL, PT, RO, RU, SC, SD, SB, SG, SK, SI., SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) **Designated States (unless otherwise indicated, for every kind of regional protection available):** ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- *with international search report*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.